

WHAT IS CLAIMED IS:

1. A method of manufacturing a liquid crystal device substrate constituting one of a pair of substrates of a liquid crystal device having a liquid crystal held between the pair of substrates, the liquid crystal device substrate comprising a substrate, a base oxide film provided on the substrate, a plurality of signal lines, and short-circuit wiring provided on the base oxide film for electrically connecting the plurality of signal lines during a manufacturing process, the method comprising the steps of:
  - forming, on the base oxide film, an etching stop layer comprising a film having resistance to etching of an oxide film formed on the short-circuit wiring;
  - forming the short-circuit wiring on the base oxide film so that the short-circuit wiring crosses the etching stop layer;
  - forming an insulating film to cover the short-circuit wiring;
  - forming holes by etching in the insulating film above a formation region of the etching stop layer, for cutting the short-circuit wiring to release the signal lines from a short-circuit state;
  - etching out the oxide film formed on the short-circuit wiring through the holes; and
  - cutting the short-circuit wiring through the holes.
2. The method of manufacturing a liquid crystal device substrate according to claim 1, the etching stop layer being formed before formation of the short-circuit wiring, and comprising an arbitrary film used at positions other than formation positions of the short-circuit wiring in the liquid crystal device substrate.
3. A method of manufacturing a liquid crystal device substrate constituting one of a pair of substrates of a liquid crystal device having a liquid crystal held between the pair of substrates, the liquid crystal device substrate comprising a substrate, a base oxide film provided on the substrate, a plurality of signal lines, a plurality of pixel electrodes respectively connected to the plurality of signal lines, short-circuit wiring provided on the base oxide film for electrically connecting the plurality of signal lines during a manufacturing process, and thin film transistors each comprising a silicon film as a semiconductor active film; the method comprising the steps of:

patterning a silicon film on the base oxide film to form the semiconductor active films of the thin film transistors and to form an etching stop layer having resistance to etching of a silicon oxide film;

forming a silicon oxide film on the silicon film remaining;

5 depositing a gate electrode material film for the thin film transistors over an entire surface and patterning it to form scanning lines which constitute the signal lines, gate electrodes of the thin film transistors, and the short-circuit wiring which crosses the etching stop layer;

10 introducing an impurity into the semiconductor active films of the thin film transistors to form source regions and drain regions;

forming a first interlayer insulating film to cover the thin film transistors and the short-circuit wiring;

15 patterning the first interlayer insulating film to form source contact holes which pass through the first interlayer insulating film and reach the source regions of the thin film transistors;

depositing a conductive film and patterning it to form data lines which constitute the signal lines electrically connected to the source regions through the source contact holes, and form terminals;

20 forming a second interlayer insulating film to cover the data lines and the terminals;

25 patterning the second interlayer insulating film and the first interlayer insulating film to form drain contact holes which pass through both of the first interlayer insulating film and the second interlayer insulating film and reach the drain regions of the thin film transistors, and form holes in formation regions of the etching stop layer, for cutting the short-circuit wiring;

forming pixel electrodes electrically connected to the drain regions through the drain contact holes;

30 forming a mask pattern having holes on the second interlayer insulating film and wet-etching the second interlayer insulating film to expose surfaces of the terminals and removing a native oxide film formed on the short-circuit wiring through the holes; and

cutting the short-circuit wiring by etching through the holes.

4. The method of manufacturing a liquid crystal device substrate according to claim 3, each of the semiconductor active film of each of the thin film

transistors and the silicon film, which constitutes the etching stop layer, comprising a single crystal silicon film, and a bonding SOI substrate is used as a raw material substrate.